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STATE DOCUMENTS

Pheasant and Range Conditions - Western Montana 1948

Irven O. Buss

Field trips were conducted out of Missoula, Montana, from December 28 through 31, 1948, to gather data on the status of pheasants and appraise their range for management purposes.

The field party on December 28 consisted of Fred L. Hartkorn, Fieldman, Wildlife Restoration Division, Montana Fish and Game Department, and Irven O. Buss, Professor of Wildlife Management, Washington State College. William Bergeson and Robert Green, also of the Wildlife Restoration Division, Montana Fish and Game Department, joined the party on December 29, and Philip Wright, Professor of Zoology, University of Montana, accompanied the field party on December 31.

Three days were spent north of Missoula in the pheasant range extending northward from the junction of Highways "10A" and "93" to Polson at the south end of Flathead Lake. One day was spent in the Bitterroot Valley south of Missoula nearly to Darby and mainly east of the Bitterroot River.

A record was kept of all pheasants that could be sexed by using six or eight-power binoculars. Time spent and distance traveled in the field were recorded. Each group of birds identified was recorded separately to determine the extent of flocking and whether or not there was a correlation between pheasant abundance and grain production or other land uses. A summary of the pheasants observed is shown in the following table:

Dec. Date	Cocks	Hens	Cock-Hen Ratio	Area
22*	70	154	1 : 2.2	Moiese-Pablo
28	126	269	1 : 2.1	Ronan-Charlo
29	160	432	1 : 2.7	Moiese-Polson
30	70	140	1 : 2.0	Bitterroot Valley
31	53	96	1 : 1.8	St. Ignatius-Polson
Totals	479	1091	1 : 2.3	

*Data obtained by Fred L. Hartkorn previous to this survey; included for comparative purposes.

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One hundred ninety-three flocks totaling 1,356 pheasants were recorded during the four-day period. Flock sizes varied from 1 to 92 birds and averaged seven per flock.

The sex ratio of 1 cock to 2.3 hens is a healthy one indeed. This ratio indicates clearly that over-shooting of cocks did not occur, and that more than enough cocks remain for successful breeding purposes. During the fall season of 1942 when pheasant populations were at a high level, hunters shot over 800,000 cocks in Wisconsin. The average sex ratio for the preceding two winters based on 112,024 pheasants was one cock to four hens. In other words, the sex ratio of Wisconsin pheasants that resulted in lush shooting and high densities showed a lower proportion of cocks than are now living in these two Montana pheasant ranges.

Generally speaking, more pheasants were observed in grain producing areas than in areas devoted to other land uses, and a good number of observations were obtained of pheasants working down through the snow in stubble fields to glean waste grain. Hungarian partridges have been known to go through snow up to 20 inches in depth to reach food, but this is the first time I have ever witnessed pheasants feeding through any appreciable snow depth where food is not exposed. This is further evidence that the ringneck is a very adaptable animal. In Washington, when snow covered available waste grain in the large open fields about Pullman pheasants utilized teasel, burdock, and apples left on trees. When these were used up at the end of a three-weeks period of continued snow the pheasants moved to the tops of the highest hills where wind had swept bare some of the land exposing waste grain and weeds which are still being used at the time of this writing.

The best pheasant range occurs in the Ronan-Charlo region where observations averaged nine pheasants per mile over a 66-mile route. Such densities should certainly be regarded as highly favorable if not optimum. If farmers in this region were raising garden crops of corn, damage complaints would be inevitable.

It is recommended that every effort be made to maintain the present population level in this region and not attempt to increase it. At the present rate of land use intensification this region is going to lose some of its high class

cover before long. Food conditions usually improve where agriculture is intensified, but cover conditions will retrograde. To prevent the gradual decline of pheasant numbers through reduction of cover, a good number of relatively small areas should be purchased or leased from land owners. The number and size of these areas is most difficult to list, but they should be obtained where they now serve as valuable escape and roosting cover for the birds and where land owners will cooperate. If the cover patches (or areas) are big, one for every 40 or 80 acres will usually suffice. Three or four smaller patches per 80 would probably be better. Some of these cover patches will be big (up to 15 acres or more), but most of them will be small (a half to two or three acres). Cattail marshes and drainages, weedy "draws", rough land, or creek borders now act as natural refuges for the birds and serve as the best possible insurance policy to prevent "burning out" by increasing hunter pressure. If such covers are maintained for the pheasants they need not be closed as refuge units - they will automatically serve as refuges without closing them.

Artificially-reared pheasants should definitely not be released on this good range. Resident pheasants, through years of "breeding out" the characters not suitable for survival are inherently adapted to the conditions existing in this area. Released pheasants, not necessarily adapted to these conditions, will cross with the resident birds and produce progeny less able to survive than the pheasants now on the area.

The marginal lands surrounding the better pheasant range are weak in their food supply for pheasants. This is outstanding where horse pastures occur and leave large tracts with no grains or weeds for staple and emergency foods. Grass tends to become the dominant vegetation in these pasture lands which are not good pheasant producers.

To improve food conditions on these marginal ranges it is possible that small areas could be acquired similar in size and interspersion to the cover patches recommended on the high class range. However, these patches would be used for food and not cover, hence they would be more expensive to acquire since the land would of necessity need to be tillable. Wheat and barley would be suitable for these food patches even though ducks would compete for the food. Corn would be equally or even more valuable as a food and not be taken as readily by ducks, but whether corn can be grown on these soils and in the existing growing period is not known to me. Any land obtained for food patches on this marginal range would doubtless be of value to other game species and would be of a more stable and permanent nature than the following management recommendation.

The second method to improve pheasant hunting conditions on these marginal ranges involves artificial propagation and gentle release of pheasants during fall and spring. This second method will probably yield more pheasants in the hunter's coat pocket per dollar invested annually than the first method, but the birds will be of lower quality than wild ones, and pheasants will be the only species to benefit from the practice. The gentle release method has been described by Frank M. Kozlik (Gentle release method of stocking pheasants. Wis. Conservation Bulletin, Vol. 13, No. 5, pp. 12-14). In brief the gentle release method consists of moving artificially-reared pheasants from their rearing pens or fields to an auxiliary holding pen constructed at the release site. After the birds have been in this auxiliary or gentle release pen for a period of about two weeks, the two ends of the pen are opened to allow the birds to walk out into the surrounding cover. Food and water is kept in the pen as long as any of the birds return. This method allows the birds to get accustomed to their new environment gradually, and past experience has shown that shooting returns from such releases have increased markedly in practically every case.

If the Montana pheasant season opens on the last day of October, it would be advisable to start rearing pheasant chicks hatched between June 15 and August 15 so they will be from 6 to 14 weeks old when they are put in the gentle release pen on October 1. On or about October 15 the two ends of the pen should be opened allowing the birds about two weeks to disperse into the nearby cover. The closer the release is made to the opening of the season, the higher will be the percentage of return by shooting. If a six-weeks old chick is put into the pen on October 1 and held for two weeks, there will be practically no feather picking and the bird will be more adaptable to its new environment than an older pheasant. If a 14-weeks old bird is put in the pen on October 1 and held for two weeks, it will be a larger bird at shooting time, will cost more to rear, and will give about the same percentage of return as the younger bird.

If a "regulation" sized pen is used no more than 50 pheasants should ever be put in it at one time. One of these pens used on an 80-acre tract will produce more birds for the hunter than rearing 200 birds by the old method - rearing, crating, trucking, and liberating from crates into a new environment

which is usually badly chosen. Cocks should be released in the fall, and hens should be held over and released for breeding purposes from these same pens in the spring. (If it is decided that this method will be used, I will be glad to furnish further details such as pen construction, location of pen, pens per unit of area, diets, and ways to make two releases from the same pen during one season.)

On the large tract that has been purchased and dedicated for game management purposes it is recommended that a system of share cropping be set up with interested farmers near the tract. Lay out the entire tract so a good interspersion of fields intended for grain spread over the area. Have an agreement with the farmer to plant, care for, harvest and keep half the grain and leave the other half as food for wildlife. Hayfields of sweet clover can be interspersed between the grain fields delaying mowing until after the peak of the hatching period. Leaving half of the sweet clover will furnish emergency food for winter and provide an excellent spring feeding and nesting area which is oftentimes neglected in a well-rounded management program. Pheasants prefer old seedings for nesting and use these fields four times as much as new seedings; hence it would be well to leave some of the hay fields produce for at least two years and put the sweet clover hayfields on a rotation basis to guarantee some old seedings each year for nesting purposes. Lastly, leave good fence rows or borders between and about the fields. Travel lanes between food in the fields and the roosting cover is very important.

Forget about predator control. If you furnish the proper range conditions wildlife, especially pheasants, will be very able to maintain themselves in good numbers. Practically any management measure that helps the carrying capacity of the land will pay bigger dividends than wasting money trying to reduce predators. Anyway, the biggest pheasant predator I know is the human poacher.

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